UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

VIRTUAL SOLUTIONS, LLC,
 	
        Plaintiff,
 	
v.
 	
MICROSOFT CORPORATION,
 	
        Defendants.
	Case No. 1:12-CV-1118-SAS

RULE 56.1 STATEMENT OF UNDISPUTED MATERIAL FACTS

Pursuant to Local Civil Rule 56.1, Microsoft Corporation presents the following statement of undisputed material facts:

I.   INTRODUCTORY FACTS

1.   U.S. Patent No. 6,507,353 (filed Dec. 10, 1999) ("the '353 patent"), is entitled "Influencing Virtual Actors in an Interactive Environment." ['353 Patent, (54), Ex. 1.][1]

2.   The '353 patent describes a theater into which the images of animals and objects are projected for viewing by an audience. [Id. at col. 3:3-8.]

3.   The '353 patent describes sensors in the theater area that detect the positions and actions of audience members and then "Stimulus Generators" analyze that data. [Id. at col. 3:22-29.]

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[1] All citations to "Exhibit __" refer to exhibits attached to the Declaration of Robert Courtney in Support of Microsoft Corporation's Motion for Summary Judgment of Invalidity for Indefiniteness, filed concurrently herewith.

4.   The '353 patent says that a system could use this sensor data in such a way that the projected images of animals or objects would react to the audience in real-time. [Id. at cols. 2:14-19, 4:55-5:14.]

5.   The '353 patent refers to the projected animals and objects as "virtual actors." [Id. at col. 4:55-65.]

6.   The '353 patent acknowledges that the general concept of "virtual reality" was known in the prior art. [Id. at col. 2:1.]

7.   The '353 patent describes prior art virtual reality systems and calls them "promising." [Id.]

8.   The '353 patent states that prior art virtual reality systems were limited because a user was "bound to experiment with the pre-set scenarios of the apparatus." [Id. at col. 2:3-5.]

9.   The '353 patent describes a system in which each "virtual actor" has its own behavioral model and its reactions can extend beyond the pre-determined scenarios set by the system's programmers. [Id. at cols. 4:66-5:14.]

10.   The '353 patent describes a system in which, instead of following scripted routines, each virtual actor is supplied with a set of data values encoding its behavioral preferences. [Id. at cols. 11:61-12:13.]

11.   The '353 patent describes a system in which a virtual actor's behavioral preferences are encoded as part of the "behavior module." [Id. at Fig. 3 and accompanying text.]

12.   The '353 patent describes a system in which, when "stimuli" occur, the virtual actor's response (if any) is calculated by analyzing the detected stimuli against the preference codified in the behavioral module. [Id. at cols. 4:55-5:14, 5:47-6:52.]

13.   The '353 patent describes a system in which the virtual actor's response to a stimulus is not predetermined, but arises from the interaction between the sensor data and the behavioral module. [Id. at col. 2:17-18.]

14.   The '353 patent describes its approach as promoting a better simulation of "real-life" behaviors by the virtual actors. [Id.]

15.   In a preferred embodiment of the '353 patent, the main modules of the system are implemented in software. [Id. at col. 10:44-48.]

16.   Virtual Solutions's preliminary infringement contentions of June 22, 2012, identify '353 patent claims 1, 2, 3, 5, 7, 8, 9, and 22 as asserted in this case. [Virtual Solutions Prelim. Infr. Conts. (June 22, 2012), Ex. 3.]

II.   FACTS CONCERNING "PHYSICAL CHARACTERISTIC SIGNAL"

17.   Claim 1 of the '353 patent, and all dependent claims, include the term "physical characteristic signal." ['353 Patent, Col. 16:14-15, 20-25, Ex. 1.]

18.   Claim 1 of the '353 patent includes the phrase:

> . . . interpreting said sensor signals to provide at least one physical characteristic signal including position information[.]

[Id. at col. 16:13-15.]

19.   The phrase "interpreting said sensor signals to provide at least one physical characteristic signal including position information" requires that the "physical characteristic signal" include "position information."

20.   Claim 1 of the '353 patent includes the phrase:

... analyzing said at least one physical characteristic signal, a change over time of said physical characteristic signal and said behavior model for said at least one virtual actor to generate a behavior vector of said at least one virtual actor using said position information and said at least one physical characteristic signal[.]

[Id. at col. 16:19-24.]

21.   The phrase "using said position information and said at least one physical characteristic signal" requires that the "physical characteristic signal" be distinct from the "position information."

22.   The '353 patent's written description does not plainly indicate whether the "position information" is distinct from or included within the "physical characteristic signal."

23.   Figure 4 of the '353 patent depicts a "physical characteristic signal" but is silent as to whether that signal includes or is distinct from "position information." [Id. at Fig. 4, see also id. at col. 7:5-8.]

24.   The '353 patent's written description discusses "information on the visitor . . . position" but is silent as to whether that information is included in or distinct from the "physical characteristic signal." [Id. at col. 4:29-37.]

25.   During prosecution, all claims of the application that led to the '353 patent were rejected as unpatentable. ['353 File Hist., Office Action of May 8, 2002, Ex. 2.]

26.   None of the examiner's statements during prosecution of the application that led to the '353 patent clarifies his understanding as to the relationship between "position information" and the "physical characteristic signal." [Id.]

27.   In rejecting the claims of the application that led to the '353 patent, the examiner assumed that the claim required a behavior vector "using position information and at least one physical characteristic," but did not state any relationship between the "position information" and the "physical characteristic signal." [Id. at MS00006740.]

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28. Aaron Bobick, Ph.D., is a Professor in the School of Interactive Computing in the College of Computing at the Georgia Institute of Technology. [Decl. of Aaron Bobick, Ph.D. (Oct. 5, 2012) ("Bobick Decl.") ¶ 3.][2]

29. A person of ordinary skill in the art at the time of the '353 patent's filing date "would possess at least a Master's degree in computer science or electrical engineering with several years of experience in the design of sensing and interactive virtual reality systems. One who possessed extraordinary experience in one of these areas could also be considered to have ordinary skill in the field, notwithstanding a deficit in the other area." [Id. ¶ 7.]

30. Claim 1 uses "physical characteristic signal" and "position information" in a contradictory way that makes it impossible to interpret the "physical characteristic signal" term. [Id. ¶ 10.]

31. Claim 1 of the '353 patent simultaneously requires two contradictory elements— "that 'position information' be both included in and distinct from the 'physical characteristic signal'"—and this contradiction makes the claim impossible to interpret meaningfully. [Id. ¶ 13; see also id. ¶¶ 11-12 (discussing this contradiction in detail).]

32. The contradiction in claim 1 concerning "physical characteristic signal" "cannot be cured by reference to the specification, file history, or knowledge of one skilled in the art." [Id. ¶ 14.]

33. Claim 1's "insoluble ambiguity is a consequence of contradictory claim language . . . [which] cannot be cured without amendment to the claims themselves." [Id.]

34. One of ordinary skill in the art at the time of filing would be unable to know the scope of the claimed "physical characteristic signal" in the '353 patent. [Id. ¶ 22.]

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[2] Dr. Bobick's declaration is being filed concurrently with this statement.

III. FACTS CONCERNING "VIRTUAL ENVIRONMENT STIMULUS GENERATOR"

35.   Claim 8 of the '353 patent and its dependents include the term "virtual environment stimulus generator." ['353 Patent, Col. 16:45-49, Ex. 1.]

36.   Claim 8 of the '353 patent reads:

> A method as claimed in claim 7, further comprising a step of providing a virtual environment stimulus generator, wherein said virtual environment stimulus generator analyzes said virtual environment database and generates a virtual environment stimulus.

[Id.]

37.   The term "virtual environment stimulus generator" did not have preexisting meaning to those skilled in the art at the time the application leading to the '353 patent was filed. [Bobick Decl. ¶ 16.]

38.   A person of ordinary skill in the art would seek to define the term "virtual environment stimulus generator" entirely by the patent language. [Id.]

39.   Claim 8 states that the "virtual environment stimulus generator" will perform two functions: "analyz[ing] said virtual environment database" and "generat[ing] a virtual environment stimulus." ['353 Patent, Col. 16:45-49, Ex. 1.]

40.   The term "analyzes said virtual environment database" provides no guidance "as to the nature of the analysis or that analysis's role in generating the virtual environment stimulus." [Bobick Decl. ¶ 17.]

41.   The term "generates a virtual environment stimulus" "provides no guidance as to how the analysis of the database discussed above impacts, causes, or otherwise influences the generation of the virtual environment stimulus." [Id. ¶ 18.]

42.   The Amended Joint Claim Construction Statement filed by the parties in this case proposes that the term "virtual environment stimulus" receive the agreed construction "stimulus in the virtual environment to which at least one virtual actor can potentially respond." [Amended Joint Claim Construction Statement, ECF No. __.]

43.   The specification of the '353 patent does not disclose structure corresponding to the recited "virtual environment stimulus generator, wherein said virtual environment stimulus generator analyzes said virtual environment database and generates a virtual environment stimulus" limitation. [Bobick Decl. ¶ 19.]

44.   The '353 patent includes the following discussion of "Virtual Environment Stimulus Generator 27":

> The Virtual Environment Stimulus Generator 27 reads information from this database [the virtual environment database 26] in order to calculate the occurrence of random events such as the apparition of new actors, for example. Once the Virtual Environment Stimulus Generator 27 decides that a new actor should be created, a signal is sent to the new actor creation module 29.

['353 Patent, Col. 3:61-67, Ex. 1.]

45.   The '353 patent's discussion of "Virtual Environment Stimulus Generator 27" does not describe any algorithm used to read information from the virtual environment database. [Id. at col. 3:61-67; Bobick Decl. ¶ 20.]

46.   The '353 patent's discussion of "Virtual Environment Stimulus Generator 27" does not describe any algorithm used to calculate the occurrence of random events, such as the apparition of new actors. ['353 Patent, Col. 3:61-67, Ex. 1; Bobick Decl. ¶ 20.]

47.   The '353 patent includes the following discussion of "virtual environment stimulus generator 52":

> A virtual environment database 51 keeps track, as explained earlier, of all activities in the dome. The virtual environment

> stimulus generator 52 computes random events and can create new actors. It can also generate a reaction using the reaction generator 56, which will be added 57 to the overall reaction generator 59. A new actor creator 60 uses the signal from the overall reaction generator 59 and the virtual environment stimulus generator 52 and decides on a reaction which is fed to the biophysical model action generator 62 of the new actor.

[Id. at col. 6:33-41.]

48.   The '353 patent's discussion of "virtual environment stimulus generator 52" does not describe any algorithm used to perform the claimed functions of "analyz[ing] said virtual environment database" or "generat[ing] a virtual environment stimulus." ['353 Patent, Col. 6:33-41, Ex. 1; Bobick Decl. ¶ 21.]

49.   Figure 3 of the '353 patent depicts an element titled "virtual environment stimulus generator 52." ['353 Patent, Fig. 3, Ex. 1.]

50.   Figure 3 of the '353 patent does not describe any algorithm used to perform the claimed functions of "analyz[ing] said virtual environment database" or "generat[ing] a virtual environment stimulus." [Id. at Fig. 3; Bobick Decl. ¶ 21.]

51.   The '353 patent does not disclose to one of ordinary skill in the art structure corresponding to the "virtual environment stimulus generator" limitation. [Bobick Decl. ¶ 23.]

Respectfully submitted,

FISH & RICHARDSON P.C.

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